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SIGNIFICANT FACTORS IN HYPNOTIC BEHAVIOR[1]

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Wells' (1924) informal studies on "waking hypnosis" suggest the following hypotheses:

1. Direct suggestions, such as "Your body is immovable," or "You cannot say your name," administered *without* a preliminary trance induction procedure, are sufficient to produce body immobility, verbal inhibition, and other behaviors historically associated with the word "hypnosis" in a "considerable proportion" of subjects.

2. Such "hypnotic behaviors" can be as effectively elicited by direct suggestions given alone as by suggestions given after a formal trance induction.

The results of the study of Weitzenhoffer and Sjoberg (1961) tend to support the first hypothesis but not the second. These investigators found that suggestions given after a formal induction procedure were more effective than the same suggestions given alone in producing arm rigidity, eye catalepsy, visual-auditory hallucination, negative hallucination, and other behaviors termed "hypnotic." There is additional confirmation of the first hypothesis in the recent studies of Barber (1959), Barber and Deeley (1961), and Barber (1961).

The purpose of the present investigation was twofold: to provide a further test of Wells' (1924) hypotheses (Studies I and II) and to explore the possible biographical and attitudinal factors which may be associated with responsiveness to direct suggestions (Study III).

STUDY I. PARAMETERS OF "SUGGESTIBILITY" IN A STUDENT POPULATION

Method

Subjects. All subjects resided in college dormitories and were obtained by a room-to-room approach in which they were asked to participate in an experiment on imagination and concentration (hypnosis was not mentioned). Of 497 students approached, 462 (93%) agreed to participate. The 462 participants consisted of 236 women at Regis College, and 123 women and 103 men at Boston University. The age range was 17–28 with a median of 19.

Procedure. All subjects were tested by the same experimenter.[3] Preliminary instructions were:

> These are all tests of imagination. The better you can imagine and the harder you try, the more you'll respond. Try as hard as you can to concentrate, and to imagine the things I tell you.

As an introduction to the tasks, the Chevreul Pendulum Test, as described by Weitzenhoffer (1953, p. 12), was administered. Each subject was then seated in a comfortable chair and given the following eight tests (direct suggestions) in the same way, as memorized by the experimenter; the first three tests were given with the subject's eyes open, the remaining five with eyes closed.

1. Arm Lowering. Starting with the subject's right arm extended and horizontal, suggestions are given for 30 seconds that the arm is becoming heavy and is moving down. Scoring criterion: 1 point for response of 4 inches or more.

2. Arm Levitation. Starting with the subject's left arm extended and horizontal, suggestions are given for 30 seconds that the arm is weightless and is moving up. Scoring criterion: 1 point for response of 4 inches or more.

3. Hand Lock. Subject is instructed to clasp his hands together tightly with fingers intertwined and place them in his lap. Suggestions are given for 45 seconds that the hands are like steel, they are welded together, they cannot be taken apart. Scoring criteria: ½ point for incomplete separation of hands after 5-seconds effort; 1 point for incomplete separation after 15-seconds effort.

4. Thirst "Hallucination." Suggestions of extreme thirst are given for 45 seconds. Scoring criteria: ½ point if the subject shows noticeable swallowing, moistening of lips, or marked mouth movements; additional ½ point if the subject indicates (during the post-experimental interview) that he became thirsty during this test.

5. Verbal Inhibition. Suggestions are given for 45 seconds that the subject's throat and jaw muscles are rigid and he cannot say his name. Scoring criteria: ½ point if the subject does not say his name after 5-seconds effort; 1 point if he does not say his name after 15-seconds effort.

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TABLE 1

SUMMARY OF ANALYSIS OF VARIANCE OF SCORES ON EIGHT DIRECT SUGGESTIONS ATTAINED BY THREE GROUPS OF MALE AND FEMALE COLLEGE STUDENTS

Source of variation	*SS*	*df*	*MS*	*F*
Between groups	10.55	2	5.27	1.09[a]
Within groups	2208.81	459	4.81	
Total	2219.36	461		

[a] Not significant.

6. Body Immobility. Suggestions are given for 45 seconds that the subject's body is heavy and rigid and he cannot stand up. Scoring criteria: ½ point if the subject is not completely standing after 5-seconds effort; 1 point if not completely standing after 15-seconds effort.

7. "Posthypnotic" Response. Subject is told:

> When this experiment is over I'll click like this [the experimenter presents auditory stimulus] and you'll cough automatically. At the moment I click you'll cough.

Scoring criterion: 1 point if the subject coughs in response to auditory stimulus.

8. Selective Amnesia. Subject is told that when the experiment is over he will remember all the tests except the one where he was told his arm was moving up (Test 2), and that he will remember this test only when the experimenter says, "Now you can remember." Scoring criterion: 1 point if the subject does not refer to amnesic task but recalls all other tests through Test 6 and then recalls Test 2 in response to cue words.[4]

Following the administration of the tests, the subject was informed that the experiment was over and told to open his eyes. To score Test 8 the subject was asked to recite the tests; to score Test 7 the auditory stimulus was presented at an appropriate interval. The subject was then requested to describe his experiences during the testing; following this, he was asked not to discuss the experiment with others.

All subjects tested during the latter part of the summer of 1960 (60 women at Boston University) were given a retest (by the same experimenter) after an interval of two days to one week; the other 402 subjects (tested during the winter, spring, early summer, and fall of the same year) were given the tests once.

[4] Subjects at Boston University were given Tests 7 and 8 as described above (Form B). The following alternate form (Form A) of Tests 7 and 8 had been administered to subjects previously tested at Regis College. Test 7 ("Posthypnotic" Response): subject was told he would blink each time the auditory stimulus was presented (the stimulus was presented three times). Test 8 (Selective Amnesia): subject was told he would not remember Test 4 (Thirst "Hallucination"). Since the blinking response (Test 7, Form A) was at times difficult to score and since selective amnesia for the thirst "hallucination" (Test 8, Form A) at times interfered with scoring Test 4, Form B of Tests 7 and 8, which could be scored without difficulty and without interference with earlier tests, was administered to subjects subsequently tested at Boston University.

Results and Discussion

The mean scores on the first testing for the three groups (women at Regis College, women at Boston University, and men at Boston University) are 3.45, 3.10, and 3.24. Since an analysis of variance, as summarized in Table 1, indicates that the scores attained by the three groups do not differ significantly, the scores for the entire sample are combined in Table 2. As this table indicates, 102 subjects (22%) showed a "high" level of response to the tests—scores of 5.5 or above on an eight-point scale. The post-experimental reports of these subjects were comparable to the reports one might expect from persons who have been formally "hypnotized"; e.g., "I felt I was dying from thirst," "I was amazed when I couldn't speak my name," "I just couldn't get up from the chair." As Table 2 also indicates an additional 231 subjects

TABLE 2

SCORES OF 462 COLLEGE STUDENTS ON EIGHT DIRECT SUGGESTIONS

Level of suggestibility	Raw score	Number of subjects		Percentage of subjects		Centile equivalent	*T* score
High	8	12		2.6		99	72
	7.5	8		1.7		96	68
	7	16	102	3.5	22	94	65
	6.5	17		3.7		90	63
	6	26		5.6		86	60
	5.5	23		5.0		80	58
Medium	5	24		5.2		75	56
	4.5	28		6.1		70	55
	4	39		8.4		62	53
	3.5	27	231	5.8	50	55	51
	3	44		9.5		48	49
	2.5	31		6.7		40	47
	2	38		8.2		32	45
Low	1.5	25		5.4		25	43
	1	35	129	7.6	28	19	41
	0.5	25		5.4		12	38
	0	44		9.5		5	33
Total		462		100			

(50%) passed from two to five tests, and the remaining 129 subjects (28%) passed less than two tests.

The number of subjects passing (scoring 1 point) on each test was: Arm Lowering—270 (58%), Arm Levitation—226 (49%), Hand Lock—96 (21%), Thirst "Hallucination"—277 (60%), Verbal Inhibition—69 (15%), Body Immobility—45 (10%), "Posthypnotic" Response—208 (45%), Selective Amnesia—63 (14%). If 45% represents a "considerable proportion" of subjects, the first hypothesis—that behaviors associated with the word "hypnosis" can be induced in a "considerable proportion" of subjects by direct suggestions without a preliminary trance induction procedure—holds, in the present sample, for arm lowering, arm levitation, thirst "hallucination," and "posthypnotic" response. Although suggestions of verbal inhibition, body immobility, and selective amnesia are rated on some scales of "hypnotic depth" (cf. LeCron & Bordeaux, 1949, pp. 65-66) as "difficult" suggestions which indicate a "medium" or "deep trance," a small minority of subjects (10–15%) in the present sample passed these tests without a formal trance induction.

The 60 subjects given a retest showed lower scores in the second session: the mean score on the first testing (3.13) is significantly higher than the retest score (2.58) ($t = 3.35$, $p < .01$). A product-moment correlation coefficient of 0.88 ($p < .001$) was obtained between scores in the two sessions.

The results of this investigation are in line with Weitzenhoffer and Sjoberg's (1961) study which found that "some individuals can produce hypnotic-like behavior in the absence of any formal induction of hypnosis." Previous studies from our laboratory suggest a similar conclusion. Barber and Deeley (1961) found that some unhypnotized persons who are instructed to "try not to see the color red and the color green" give responses to the Ishihara Plates similar to those given by "hypnotic color-blind" subjects. Oswald (1957) and Barber (1959) have presented data indicating that a performance considered characteristic of the "deeply hypnotized" person—"hallucinating" colors on a gray card, and subsequently reporting appropriate complementary colored afterimages (Erickson & Erickson, 1938; Rosenthal & Mele, 1952)—can be elicited from some persons (without a preliminary trance induction) by instructions to imagine the specified colors. Additional investigations, recently reviewed elsewhere (Barber, 1961) suggest that a trance induction procedure is not necessary to elicit other behaviors associated with the term "deep hypnosis" such as hypnotic deafness, hypnotic blindness, and negative hallucinations; it appears likely that similar performances can be induced in some normal persons by the following brief instructions:

> Try to remain inattentive to the auditory (or visual) stimuli.

STUDY II. THE RELATIVE EFFECTIVENESS OF DIRECT SUGGESTIONS AND A CONVENTIONAL TRANCE INDUCTION IN ELICITING "HYPNOTIC BEHAVIORS"

The present study was designed to test the second hypothesis: Direct suggestions given alone are as effective as the same suggestions given after a formal trance induction in eliciting behaviors associated with the word "hypnosis."

Method

Subjects. Thirty subjects (20 men and 10 women), who had not been previously hypnotized, volunteered to participate. Fourteen were male college students and 16 were adults residing at a summer camp. The age range was 18–41 with a median of 24.

Procedure. Subjects were informed in advance that two experimental sessions were planned, the first session involving only tests of imagination given under normal conditions, and the second session involving hypnosis.

Instructions for the first session (control) were:

> Today you will be given tests of imagination under normal conditions. You will not be hypnotized. The better you can imagine and the harder you try, the more you'll respond; try as hard as you can to concentrate, and to imagine the things I tell you.

The seated subject was instructed to close his eyes and the eight tests (direct suggestions) were administered as described in Study I above.[5]

[5] In this experiment, Form A of Test 7 and 8, as described in Footnote 4, was used, and the Chevreul Pendulum was not employed as a preliminary test.

The second session (formal trance induction) was held after a lapse of not less than two days or more than one week. Preliminary instructions were:

> In the previous session, I tested your ability to imagine under normal conditions; today you're going to be deeply hypnotized and I think you'll find it an interesting and enjoyable experience.

The seated subject was instructed to fixate on an electric metronome which ticks in synchrony with a blinking light, and a 20-minute trance induction, patterned after the procedures outlined by Friedlander and Sarbin (1938), Weitzenhoffer and Hilgard (1959), and Marcuse (1959) was administered by an experimenter (LBG) with prior training as a hypnotist. Immediately after the trance induction procedure, the eight tests were administered (as if they were part of the induction procedure) and scored in the same way as in the preceding (control) session.

Results and Discussion

The test-retest results from Study I indicate that if the eight tests are administered twice (without a preliminary trance induction) the mean score tends to drop (by about 0.5 points) in the second session; in the present study, with a formal trance induction procedure preceding the tests in the second session, the average score not only did not drop the second time but was higher (by 0.5 points) than the average score in the first session. A comparison of the scores under the control and experimental conditions using Wilcoxon's matched-pairs signed-ranks test showed that the latter were significantly higher than the former ($T = 33.5$, $N = 19$, $p < .02$).[6] The second hypothesis thus appears untenable: suggestions given after a conventional trance induction procedure are more effective than the same suggestions given alone in eliciting behaviors associated with the word "hypnosis."

Although the trance induction procedure was associated with a higher mean score, 4 subjects (13%) attained higher scores under the control condition (first session), 11 (37%) attained the same score under the two conditions, and only 15 subjects (50%) showed higher scores after the trance induction (second session). Of the 15 subjects attaining higher scores under the experimental condition, 7 gained no more than 1 point and 8 (or 27%) showed larger gains (1.5–3 points). A Spearman rank-correlation coefficient of 0.85 ($p < .001$) was obtained between scores in the two sessions.

Weitzenhoffer and Sjoberg (1961) previously reported similar findings. In their experiment, 17 suggestions of graded difficulty were administered to 30 college students in the "waking" condition; when a subject had failed three successive suggestions, a 15-minute trance induction procedure (consisting of eye-fixation and suggestions of relaxation, drowsiness, and sleep) was administered. After the trance induction, the tests were resumed, beginning two items below the first item failed and continuing until the scale was completed or the subject had again failed three successive items. The scores on the 17-point "suggestibility" scale were significantly higher following the trance induction. However, 17 subjects (57%) did not gain in score after the induction and, of the 13 subjects (43%) showing higher scores, only 5 (17%) showed marked gains (5 or more points on the 17-point scale). In brief, the results of the present experiment (Study II) and the results of the experiment previously reported by Weitzenhoffer and Sjoberg are in agreement as follows: (*a*) a conventional trance induction procedure is associated with a statistically significant overall enhancement of "suggestibility" in a group of subjects, (*b*) this overall gain is due to higher scores attained by approximately half of the subjects, and (*c*) only a small proportion of subjects (about one out of five) show relatively large gain.

The trance induction procedure employed in the present experiment (Study II) included the following components: (*a*) The situation was explicitly defined as hypnosis and implicitly defined as different, as important, as a situation in which maximal responsiveness and unusual behavior was expected. The subject (*b*) fixated on a blinking light while listening to the repetitive tick of the metronome, (*c*) remained relatively immobile with eyes closed for 20 minutes, and (*d*) listened to the hypnotist's statements to the effect that he was becoming relaxed, drowsy, and

[6] Application of the Wilcoxon signed-ranks test to the eight tests individually showed no significant difference between scores under experimental and control conditions on any one test.

sleepy. Could heightened response to suggestions have been obtained if the preliminary procedure was limited only to the first of these components—i.e., if the situation was defined either as hypnosis or as a very important test situation in which behavior normally considered odd or inappropriate was desired and expected—without employing Components *b, c,* and *d?* An affirmative answer to this question is suggested by a follow-up experiment (Glass & Barber, 1961) which appears to indicate that, with at least some subjects, a placebo administered by a physician as a "hypnosis producing" drug is as effective as a formal 20-minute trance induction procedure in enhancing response to the eight tests (direct suggestions) described in Study I above. Further experiments are in order to delineate which of the factors subsumed under the term "trance induction procedure" are necessary, which helpful but unnecessary, and which superfluous to producing enhanced response to suggestions.

STUDY III. AN EXPLORATION OF PERSONALITY CHARACTERISTICS RELATED TO "SUGGESTIBILITY"

Our recent experimental studies (Barber, 1956, 1957a, 1957b, 1958, 1960) and a series of earlier investigations reviewed by Weitzenhoffer (1953) suggest a possible relationship between the characteristics of the subject, as a person, and responsiveness to suggestions of the type commonly employed in hypnosis experiments. This indicated relationship was explored in the present study.

In a prior investigation with 70 subjects (Barber, 1960), 61 items from three questionnaires (the Guilford-Zimmerman Temperament Survey, the Webster-Sanford-Freedman (1955) version of the F Scale, and a 14-item questionnaire especially constructed for the study) were found to differentiate "highly suggestible" from "unsuggestible" subjects. A questionnaire consisting of these 61 items was administered to the three groups participating in Study I (women at Regis College, women at Boston University, and men at Boston University), and to the single group participating in Study II. Analysis of the results for the 106 "highly suggestible" and the 140 "unsuggestible" subjects [7] revealed four items which differentiated the latter from the former *in all four groups* and which were significant at the .02 level by the chi square test. To determine if these four items would "hold-up" in a previously untested group, an additional group (20 women college students) was given the questionnaire and rated on the eight tests (direct suggestions) as described in Study I (by the same experimenter who had carried out Study I). The three "highly suggestible" and the six "unsuggestible" subjects in the new group answered each of the four items in the predicted direction. The number of positive items, the content of the items, and the fact that each item held up over five groups tested by two experimenters is sufficient to exclude chance findings (Brozek & Tiede, 1952). The differentiating items are as follows ("highly suggestible" subjects tend to answer Yes; "unsuggestible" subjects tend to answer No):

1. You like to sell things (that is, act as a salesman) ($\chi^2 = 7.08$, $p < .01$).
2. You like to read true stories about love and romance ($\chi^2 = 11.07$, $p < .001$).
3. You find daydreaming very enjoyable ($\chi^2 = 6.05$, $p < .02$).
4. When you were a child of about five or six, did you have imaginary playmates who were rather vivid and almost real? ($\chi^2 = 20.86$, $p < .001$.)

In a follow-up interview, the "highly suggestible" subjects (in Study I) who had given a Yes answer to Item 1 were asked, *"Why* do you like to sell things (that is, act as a salesman)?"; the answers obtained (e.g., "Because I like people," "I like to meet new people") suggest that Item 1 refers to readiness to form new interpersonal relationships. Items 2–4 appear to refer to a pattern of behavior which can be provisionally categorized as proneness to imaginative activities, daydreaming, and fantasy.

Although the four items "held-up" over the five groups tested in these experiments, the following should be noted:

[7] Subjects attaining scores of 5.5 or above on the eight tests (direct suggestions) are categorized as "highly suggestible"; subjects scoring below 2 are categorized as "unsuggestible."

One of the "highly suggestible" subjects ($N = 107$) and one of the "unsuggestible" subjects ($N = 141$) did not complete the questionnaire.

1. Only two experimenters participated and, with the exception of 16 subjects tested in Study II, all subjects were college students; it remains to be determined if the items apply to nonstudent subjects and to subjects tested by different experimenters.

2. The items differentiate only the "highly suggestible" from the "unsuggestible" subjects and do not apply to the large group rated medium on "suggestibility."

3. Since only 4 of the original 61 items "held" over the five groups tested by two experimenters, it appears possible that "suggestibility" is not in one-to-one correspondence with fixed "personality characteristics" but is multidetermined—by situational factors, by the characteristics of the experimenter, by an interaction between the subject's characteristics and situational factors, and by an interaction between the subject's characteristics and the experimenter's characteristics.

SUMMARY

The primary purpose of this investigation was to test two hypotheses suggested by hypnosis": (*a*) Direct suggestions (administered without a preliminary trance induction procedure) are sufficient to elicit behaviors associated with the word "hypnosis" from a "considerable proportion" of subjects, and (*b*) behaviors associated with the word "hypnosis" can be as effectively elicited by direct suggestions given alone as by suggestions given after a formal trance induction procedure.

In an investigation (Study I) concerned with the first hypothesis, three groups of male and female college students ($N = 462$) were given eight direct suggestions designed to elicit the following items of behavior: arm lowering, arm levitation, inability to unclasp hands, thirst "hallucination," inability to say name, body immobility, selective amnesia, and "posthypnotic" response. Although a formal trance induction procedure was not employed, 102 subjects (22%) carried out more than five of the eight suggested behaviors. The experimental behaviors and post-experimental reports of these subjects were comparable to what one might expect had they been formally "hypnotized." An additional 231 subjects (50%) responded to between two to five suggestions, and the remaining 129 subjects (28%) responded to less than two suggestions. If 45% represents a "considerable proportion" of subjects, the first hypothesis was confirmed, in this sample, for the following behaviors: arm lowering, arm levitation, thirst "hallucination," and "posthypnotic" response.

In an experiment (Study II) designed to test the second hypothesis, 30 subjects were given the eight direct suggestions twice: first, without a preliminary trance induction procedure (control condition) and, second, following a formal trance induction (experimental condition). The second hypothesis was not confirmed: in harmony with a previous study reported by Weitzenhoffer and Sjoberg (1961), it was found that a trance induction procedure had a significant overall effect in enhancing response to suggestions. Fifteen subjects (50%) attained higher scores under the experimental condition, 11 (37%) attained the same score under the two conditions, and 4 (13%) attained higher scores under the control condition.

A concomitant study (Study III) was carried out to explore an indicated relationship between personality characteristics and responsiveness to suggestions of the type commonly employed in hypnotic experiments. A questionnaire constructed in an earlier investigation (Barber, 1960) was administered to the three groups rated on "suggestibility" in Study I, to the group rated in Study II, and to an additional group of 20 subjects rated in a follow-up study. The results suggest that in this sample of American college students the "highly suggestible" subjects, as compared with the "unsuggestible," are more willing to form new interpersonal relationships, and are more prone to imaginative activities, daydreaming, and fantasy.

REFERENCES

BARBER, T. X. A note on "hypnotizability" and personality traits. *J. clin. exp. Hypnosis,* 1956, **4,** 109–114.

BARBER, T. X. Experiments in hypnosis. *Scient. American,* 1957, **196**(4), 54–61. (a)

BARBER, T. X. Hypnosis as perceptual-cognitive restructuring: I. Analysis of concepts. *J. clin. exp. Hypnosis,* 1957, **5,** 147–166. (b)

BARBER, T. X. The concept of "hypnosis." *J. Psychol.,* 1958, **45,** 115–131.

BARBER, T. X. The after-images of "imagined" and "hallucinated" colors. *J. abnorm. soc. Psychol.,* 1959, **59,** 136–139.

BARBER, T. X. The necessary and sufficient conditions for hypnotic behavior. *Amer. J. clin. Hypnosis,* 1960, **3,** 31–42.

BARBER, T. X. Physiological effects of "hypnosis." *Psychol. Bull.,* 1961, **58,** 390–419.

BARBER, T. X., & DEELEY, D. C. Experimental evidence for a theory of hypnotic behavior: I. "Hypnotic color-blindness" without "hypnosis." *Int. J. clin. exp. Hypnosis,* 1961, **9,** 79–86.

BROZEK, J., & TIEDE, K. Reliable and questionable significance in a series of statistical tests. *Psychol. Bull.,* 1952, **49,** 339–341.

ERICKSON, M. H., & ERICKSON, ELIZABETH, M. The hypnotic induction of hallucinatory color vision followed by pseudo-images. *J. exp. Psychol.,* 1938, **22,** 581–588.

FRIEDLANDER, J. W., & SARBIN, T. R. The depth of hypnosis. *J. abnorm. soc. Psychol.,* 1938, **33,** 281–294.

GLASS, L. B., & BARBER, T. X. Hypnotic behavior, the definition of the situation, and the placebo-effect. *J. nerv. ment. Dis.,* 1961, **132,** 539–541.

LECRON, L. M., & BORDEAUX, J. *Hypnotism today.* New York: Grune & Stratton, 1949.

MARCUSE, F. L. *Hypnosis—fact and fiction.* Baltimore: Penguin, 1959.

OSWALD, I. After-images from retina and brain. *Quart. J. exp. Psychol.,* 1957, **9,** 88–100.

ROSENTHAL, B. G., & MELE, H. The validity of hypnotically induced color hallucinations. *J. abnorm. soc. Psychol.,* 1952, **47,** 700–704.

WEBSTER, H., SANFORD, N., & FREEDMAN, M. A. new instrument for studying authoritarianism in personality. *J. Psychol.,* 1955, **40,** 73–84.

WEITZENHOFFER, A. M. *Hypnotism—an objective study in suggestibility.* New York: Wiley, 1953.

WEITZENHOFFER, A. M., & HILGARD, E. R. *Stanford hypnotic susceptibility scale.* Palo Alto, Calif.: Consulting Psychologists Press, 1959.

WEITZENHOFFER, A. M., & SJOBERG, B. M., JR. Suggestibility with and without "induction of hypnosis." *J. nerv. ment. Dis.,* 1961, **132,** 204–220.

WELLS, W. R. Experiments in waking hypnosis for instructional purposes. *J. abnorm. soc. Psychol.,* 1924, **18,** 389–404.

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